CLAIMS

1. Apparatus for the granulation of a substance provided in fluid, semi-fluid and similar state comprising a prilling tower (1), a prilling bucket (15) revolvingly supported inside and at the top of said tower (1), a driving shaft (14), revolvingly supported at the top of said tower (1) and extending in the axial direction (A-A) thereof, said shaft having at least one end portion (14b) associated with said prilling bucket (15) to command it into rotation, and a device (27) to apply vibration to said bucket (15), characterized in that the bucket (15) is mounted in a sliding way on said driving shaft (14) in said axial direction (A-A) and it is integral with it in rotation and in that said device (27) is directly associated with said bucket (15) to make it vibrate in said axial direction (A-A).

2. Apparatus according to claim 1, characterized in that said driving shaft (14) extends coaxially through said prilling bucket (15) and has an end portion (14b) coupled with said bucket (15), in a sliding manner in the aforementioned axial direction (A-A) and integral in rotation.

3. Apparatus according to claim 2, characterized in that said bucket (15) is coaxially equipped at the bottom with a base block (17), crossed by an axial hole (18), engaged in a sliding way by said end portion (14b) of said shaft (14).

4. Apparatus according to claim 1, characterized in that said bucket (15) is mounted on said driving shaft (14) with a coupling substantially using grooved profiles.

5. Apparatus according to claim 3, characterized in that said end portion (14b) of said driving shaft (14) has a

reduced diameter with respect to that of said shaft (14) with which it defines an annular shoulder (16) and in that it comprises a disc (19) fixed to said portion (14b) in a predetermined distanced relationship from it, between said annular shoulder (16) and the base block (17) and between said disc (19) and the free end of said portion (14b) of the driving shaft (14) being positioned respective rings (20, 26) of elastically deformable material or springs.

6. Apparatus according to claim 1, characterized in that said device (27) is mounted on said bucket (15), inside the prilling tower (1).

7. Apparatus according to claim 6, characterized in that said device (27) is positioned inside a carter (28), fixed to said base block (17) below said bucket (15).

8. Apparatus according to claim 7, wherein said device (27) is of the pneumatically actuated type.

9. Apparatus according to claim 8, wherein a duct (29) for supplying compressed air to said device (27) extends from above said bucket (15) to said base block (17) and is open in said carter (28).

10. Apparatus according to claim 9, wherein said duct (29) for supplying compressed air is partially axially extended in said driving shaft (14) and partially in said base block (17).

11. Apparatus according to claim 9, wherein said duct (29) for supplying compressed air is in fluid communication with a pressurised fluid source through an air connecting box (41).